STM32CubeIDE
A New Integrated Development Platform for STM32 Embedded Solutions

Vincent GRENET
STMicroelectronics / Microcontroller Division
Application & Tools Development / IDE team
STMicroelectronics
Microcontrollers & Microprocessors Hardware Offer

• STMicroelectronics is a semiconductor provider

• **STM32** is µC & µP general purpose brand
  • Arm© 32b CPU(s) based
  • Part of worldwide top 3 µC vendors
  • More than x32 µC unit sold per second

• **STM32** devices are augmenting our daily life
  • Kitchen appliances, power plugs, audio headsets, white appliances, car facilities, energy smart grid, E-city facilities, E-toys, E-cigarettes, E-bicycles, E-watches, …
  • Whatever brand fan you’re, you most probably daily rely on some STM32 devices! … we are serving >40k end customers promoting mass market distribution style
• All is µC & µP devices are programmable devices
  • Without application software … there’re just useless hardware devices

What’s most important when choosing a microprocessor?

ECOSYSTEM is a KEY ENABLER
STMicroelectronics
STM32Cube Ecosystem HW Offer

**STMicroelectronics STM32Cube**
Layered, Scalable and Consistent Embedded SW Offer

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[www.st.com/STM32CubeEmbeddedSoftware](http://www.st.com/STM32CubeEmbeddedSoftware)
Welcome to the ST Community! community.st.com/s/
STMicroelectronics

STM32CubeIDE Offer

- Free for Commercial Development
- Eclipse / GCC Based
- Multi-OS Support
STM32CubeIDE
One Tool for all Your STM32 Development

- **STM32CubeIDE** is an advanced C/C++ development platform with IP configuration, code generation, code compilation, and debug features for STM32 microcontrollers. It is based on the Eclipse™ / CDT framework and GCC toolchain for the development, and GDB for the debugging. It allows the integration of the hundreds of existing plugins that complete the features of the Eclipse™ IDE.

STM32CubeIDE

Project Management

**Importer**

- Welcome to STM32CubeIDE
  - Start a project
    - Start new STM32 project
    - Import SW / TS project

**Device Configuration Editor**

- TrueSTUDIO Project
- SW4STM32 Project
STM32CubeIDE Code Editor – Navigation (2/2)

Outline View

Powerful Search

Open Resource

Task Tags

Bookmark

Minimap
STM32CubeIDE
Build Tools

Build Analyzer

Static Stack Analyzer

Headless Build

Continuous Integration

- Build project without opening IDE
  No GUI shown but build system becomes active
- Supported for makefile and managed projects
STM32CubeIDE

Debugger

Live expressions

Serial Wire Viewer

Integrated UART Terminal

External Loader

Remote Debug

STM32CubeIDE

Debug

STM32CubeIDE

STM32CubeIDE
STM32CubeIDE
Brand New Eclipse™ RCP Product

• Issued releases
  • 1.0.0 - April 2019 based on 2019-03 target platform
  • 1.1.0 - October 2019 based on 2019-09 target platform

• Good end-customer interest
  • > 60,000 download done already

• Releases availability
  • P2 repository http://sw-center.st.com/stm32cubeide/updatesite1

• ST Community support forum
  • https://community.st.com/s/topic/0TO0X000000y2j7WAA/stm32cubeide
STM32CubeIDE Development Policy

- STM32CubeIDE is not open source
  - But fully relying on up streamed material thinking to non proprietary assets (we do not fork …).
- Relying on regular open source security and compliance checks
• STM32CubeIDE is supporting both
  • Integrated workflow
  • Atomic applications based workflow
STM32CubeIDE

Assets Integration challenges

- Base technology = Eclipse SWT (Java)
- Base technology = Swing (Java)
- Base technology = Swing (Java)
- Base technology = C++/Qt CLI (C++/Qt and Java FX GUI)
- Base technology = Java FX (Node-RED and Node.js)
STM32CubeIDE
Key Must Have Technologies (1/2)

• Eclipse CDT
  • Managed builder - org.eclipse.cdt.managedbuilder.*

• Eclipse platform
  • SWT↔AWT bridge helping assets integration - org.eclipse.swt.awt.SWT_AWT

• RCP Testing Tool
• Tycho / Maven
  • ‘eclipse-application’ packaging type as compact OSes agnostic STM32CubeIDE pervasion helper

Pure Java application
- Eclipse platform
- Hierarchical containers support

STM32CubeIDE

Key Must Have Technologies (2/2)
STM32CubeIDE
Live Demo

• Live Demo

• YouTube
  • STM32CubeIDE announcement
    • https://www.youtube.com/watch?v=5tsigqTCSdk&feature=youtu.be
  • How to use STM32CubeIDE
    • https://www.youtube.com/watch?v=eumKLXNIM0U
  • STMicroelectronics channel
    • https://www.youtube.com/user/STonlineMedia/featured
Thank You!